



Physical Evidence Bulletin

Blood Alcohol

Uniform Standards For Withdrawal, Handling, and Preservation of Blood Samples for Forensic Alcohol Analysis

Purpose	The Physical Evidence Bulletin (PEB) is a guideline intended for law enforcement agencies to follow in order to properly submit evidence to BFS Laboratories. PEBs are not intended to be used in lieu of training in the collection of evidence.
Analysis and results that may be obtained	The Bureau of Forensic Services (BFS) provides analytical support to law enforcement agencies through the identification and quantitation of the amount of ethanol in biological samples. Samples that contain 0.08% or less alcohol may be sent to the BFS Toxicology Laboratory for drug testing.
Overview	In accordance with Vehicle Code Section 23158, the California Department of Highway Patrol, in cooperation with the Department of Public Health and the Department of Justice, has adopted uniform standards for withdrawal, handling and preservation of blood samples for forensic alcohol analysis. The standards are outlined in this document.
Collection, handling and preservation of blood samples	<p>Blood samples obtained from persons involved in traffic accidents or traffic violations shall be collected, handled and preserved as required by Section 1219 and 1219.1 of Title 17 of the California Code of Regulations.</p> <ul style="list-style-type: none">• Blood samples are collected by venipuncture from living individuals as soon as feasible after the alleged offense and only by persons authorized by Section 23158 of the California Vehicle Code (licensed physician and surgeon, registered nurse, licensed vocational nurse, duly licensed clinical laboratory technologist or clinical laboratory bioanalyst, unlicensed laboratory personnel regulated pursuant to Sections 1242, 1242.5, and 1246 of the Business and Professions Code, or certified paramedic acting at the request of a peace officer).• Alcohol or other volatile organic disinfectants are NOT USED to clean the skin where specimen is to be collected. Only aqueous benzalkonium chloride ("Zephiran"), povidone-iodine ("Betadine") or other approved aqueous disinfectants are used to disinfect the skin before venipuncture. (Merthiolate and mercuric chloride are not used per a May 24, 2002 Department of Public Health Advisory because mercury containing compounds are now known to cause cancer or reproductive toxicity.)• Sterile dry hypodermic needles and syringes or clean dry vacuum-type containers with sterile needles are used. Do not reuse equipment. The blood sample drawn is deposited

into a clean, dry container (commercially prepared blood collection tube) which is closed with an inert stopper. Sample containers are not reused. Tubes for collecting blood contain an anticoagulant (such as potassium oxalate) and a preservative (such as sodium fluoride).

- The collection tube should be mixed after collection by gently inverting at least five times.
- The MINIMUM quantity of blood required to perform duplicate determinations by the laboratory and still provide sufficient quantity for referee analysis by the defendant is 3 mL (approximately one teaspoon). The blood collection tubes on which DOJ laboratories performed quality assurance and non-interference testing is:
 - VACUTAINER® Grey Stopper 10 mL, containing potassium oxalate, 20 mg and sodium fluoride, 100 mg.

Note: DOJ personnel can provide corroborative testimony as to the contents and non-interference of the listed container. Samples received in other containers may be analyzed but may be subject to a legal challenge.


Marking and packaging of blood tubes

Maintenance of identity and integrity of the sample, required by Section 1219 of Title 17 of the California Code of Regulations, shall include the following procedures for the marking and packaging of blood tubes:

Marking blood tubes

The label for the blood collection tube shall contain at least the following information (see example below):

- Full name of subject.
- Date blood drawn.
- Initials of person drawing blood.
- Initials of witnessing officer.

Lynn Peavy Co. 1-800-255-6499 	CALIFORNIA DEPT. OF JUSTICE	
	SUBJECT'S NAME _____	
	INITIALS OF PERSON _____	
	DRAWING OF BLOOD/OR WITNESS TO URINE	
	DATE _____	TIME _____
WITNESSING OFFICER _____		
BFS-40		

Packaging blood collection tubes

The blood collection tube shall be sealed in a blood alcohol envelope marked as follows:

- The blood sample envelope label shall include at least the following information:
 - Full name of subject.
 - Subject driver's license number.
 - Submitting agency.
 - Geographical location where blood sample was drawn; i.e., name and/or address of hospital, jail or other facility.
 - Name of person drawing blood sample.
 - Date blood sample drawn.
 - Time blood sample drawn.
 - Signature of witnessing officer.

- A form for establishing the chain of possession for all persons handling the evidence.
- Other information such as agency or laboratory number, offense charged, anatomical location from which blood sample was drawn, or any special instructions may be added.

Note: Blood alcohol mailing kits including blood collection tubes, envelopes and labels are available on request.

**Procedure for
obtaining
blood samples**

The following guidelines for obtaining blood samples for forensic alcohol analysis should be followed:

- The requesting officer should witness the withdrawal of the sample. When the officer witnesses the actual withdrawal of the blood, it may preclude the person drawing the blood from appearing as a witness at the time of the trial.
 - The collection tube should be mixed after collection by gently inverting at least five times.
 - The person drawing the blood (e.g., nurse, doctor, or paramedic) shall fill out and initial the label and affix it firmly to the blood collection tube. The sample shall then be given to the officer who, in turn, shall initial the label and place the sample in the prescribed envelope. The officer shall immediately complete the required information on the envelope label and seal securely.
 - Appropriate steps to ensure integrity of sample shall be taken:
 - Once the envelope or other container is sealed, it must not be opened except for analysis in the laboratory.
 - Each person having possession of the sealed samples shall sign his name in the space provided for recording the “chain of possession”.
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**Post-mortem
blood samples**

The collection of post-mortem blood samples collected for non-driving offenses requires precautions to ensure an uncontaminated sample is obtained. For example:

- Samples shall be obtained PRIOR to the start of any embalming procedure. Blood samples shall not be collected from the circulatory system effluent during arterial injection of embalming fluid.
 - Care shall be taken to avoid contamination by alcohol from the gastrointestinal tract directly or by diffusion therefrom. The sample shall be taken from a major vein or the heart.
 - You may wish to consult with crime laboratory personnel in these types of cases.
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**For further
information
and
additional
resources**

Please contact your regional BFS laboratory with any further questions that you may have.

For a list of regional laboratories go to:

http://ag.ca.gov/bfs/pdf/bfs_brochure.pdf or <http://ag.ca.gov/bfs/>

To locate the most current Physical Evidence Bulletins please go to:

<http://ag.ca.gov/cci/reference/reference.php#peb>

If drugs are suspected please refer to Physical Evidence Bulletin #8 (Toxicology - Blood or Urine) for specific requirements of submission of samples to the Toxicology laboratory.
